

# Instructions

for the

**Heath®**

## RAIN GAUGE ACCESSORY

Model IDA-5001-2

### INTRODUCTION

This kit is designed to measure rainfall in inches or centimeters and displays the rainfall on the digital readout of the Heathkit Advanced Weather Computer.

The sensor unit uses a dipper assembly to magnetically actuate a reed switch. The number of switch closings is then registered on the readout. You can mount the sensor on a roof, post, or platform attached to an antenna tower.

### PARTS LIST

Your kit contains the following parts. For service and parts ordering information, refer to the Assembly Manual for your Advanced Weather Computer.

| HEATH<br>Part No. | QTY. | DESCRIPTION  |
|-------------------|------|--|
| 150-211           | 1    | Rain gauge sensor assembly<br>consisting of:                           |
|                   | 1    | Rain sensor  |
|                   | 3    | Screw  |
|                   | 3    | Mounting strap   |
| 259-11            | 2    | #6 spade lug   |
|                   | 1    | Blue and white label   |
|                   | 1    | Instruction sheet (See<br>lower right-hand corner<br>for part number.) |
|                   |      | Solder   |

PREPARATION AND CALIBRATION

RAIN SENSOR PREPARATION

Refer to Pictorial 1 for the following steps.

WARNING: The collector ring is made of thin metal and can have very sharp edges. Handle the sensor carefully to avoid cuts.

- ( ) Carefully remove the sensor (#150-211) from its shipping carton.
- ( ) Separate the sensor wires for 3/4" and remove 1/4" of insulation from each wire end. Then twist the bare wire ends and add a small amount of solder to hold the wire strands together.
- ( ) Refer to the inset drawing in Pictorial 1 and grasp the sensor at its narrowest point; then carefully pry the base off with your fingertips.

NOTE: The sensor's movable dipper is coated with a white film that prevents water from collecting on its surface. Do **not** touch or remove this film from the dipper, as it will cause a calibration error.

- ( ) Remove any packing materials which prevent the dipper from moving.

Connect either sensor wire to the Weather Computer's terminal strip labeled RAIN as follows:

- ( ) Either wire to lug 3.
- ( ) Other wire to lug 4.
- ( ) Carefully rock the sensor dipper from one side to the other. You should hear a click from the sensor each time the sensor moves to the opposite stop, and the display should increment by .01 for inches or .0254 for centimeters.

NOTE: The sensor has been accurately calibrated, and does not require additional calibration.

If the sensor increments properly, proceed to "Installation." If the sensor does not increment properly, perform the following steps.

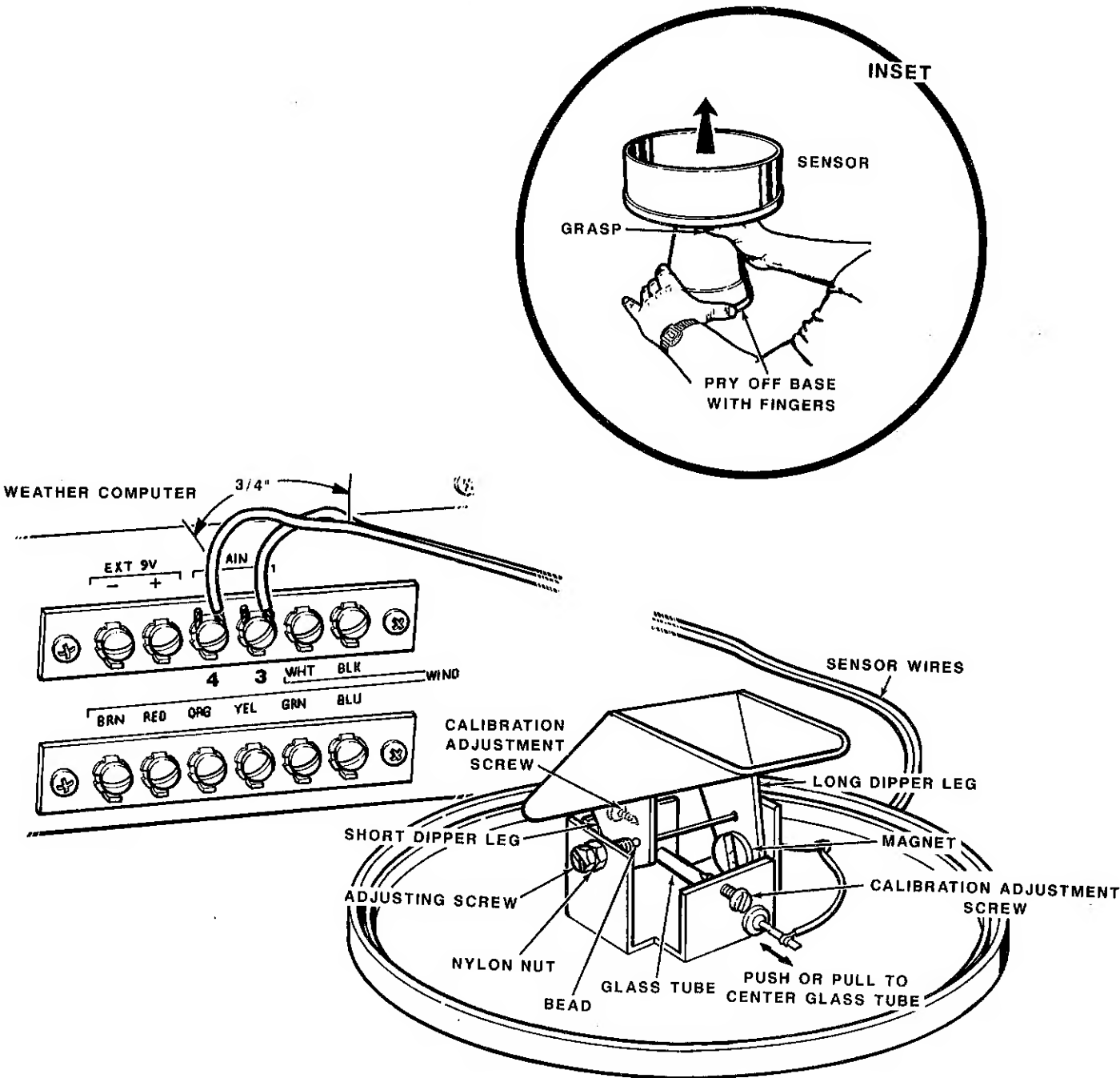
- ( ) Examine the dipper assembly. The short dipper leg should be against the small bead on the dipper shaft, and the long leg (with the magnet attached) should be against the adjustment screw at the opposite end of the shaft. The magnet should be about 1/16" away from the glass tube containing the contacts.
- ( ) Rock the dipper from stop to stop. If you hear no click, or a click only when the dipper moves in one direction, carefully reposition the glass tube to center the contacts in the magnet's path. Then recheck the dipper operation.

If the contacts still do not close properly:

1. Loosen the nylon nut on the bead side of the shaft and turn the adjusting screw 1/4-turn counterclockwise. Then retighten the nut.
2. Loosen the nut on the opposite end of the shaft, turn the adjusting screw 1/4-turn clockwise, and retighten the nut.

You should now hear a click when the dipper moves in either direction, and the readout should increment properly. If it does not, repeat the above two steps, repositioning the magnet closer to the contacts. The magnet should not end up closer than 1/16" to the glass tube. Then complete the following step and proceed to "Installation."

- ( ) Disconnect the sensor wires from the Weather Computer.
- ( ) Remove the backing paper from the blue and white label. Then press the label into place next to the existing label(s) on the bottom of the Weather Computer chassis.

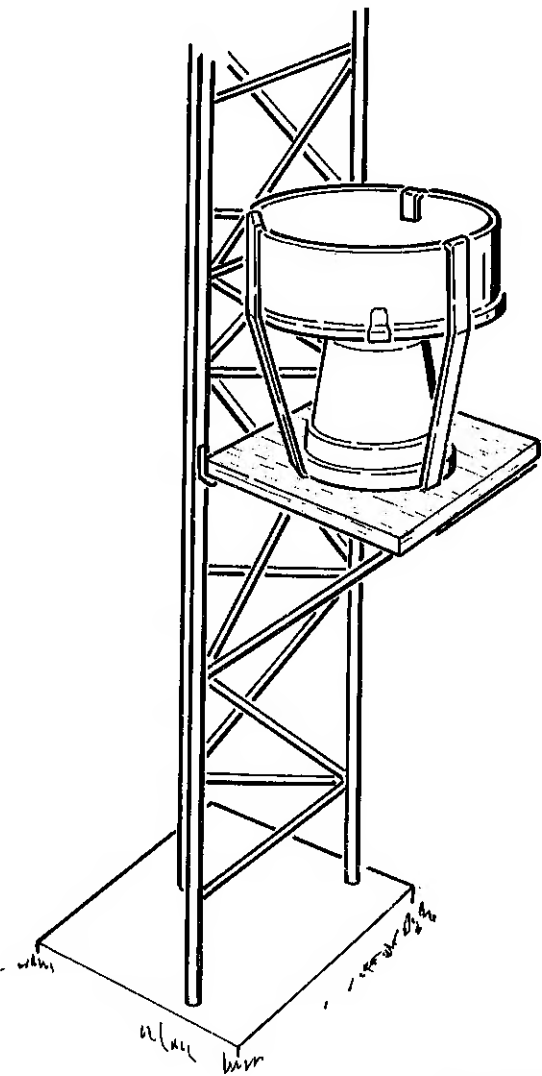


PICTORIAL 1

INSTALLATION

READOUT UNIT

Your Rain Gauge Accessory is supplied with 60 feet of 2-wire cable to reach between the sensor unit and the Weather Computer. This must be considered when you choose the location for the two units. The Weather Computer is not waterproof and must be located indoors within 5-1/2 feet of a 120 VAC outlet (the length of the power cord). NOTE: You can splice an additional length of cable to the sensor unit, up to a maximum length of 150 feet. Be sure the splice connection is properly sealed to prevent moisture from reaching the wires.



PICTORIAL 2

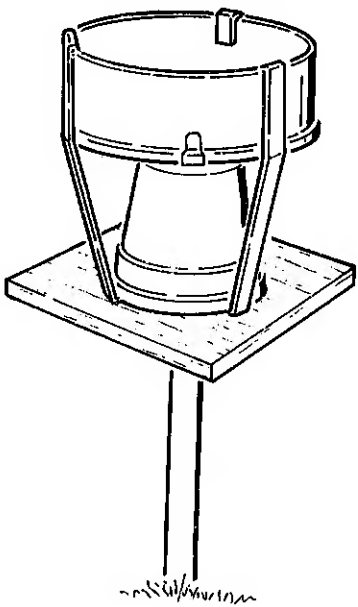
SENSOR UNIT

You can mount the sensor unit on any level outdoor surface, such as a 6" x 6" (minimum) platform on a fence post or wooden pole, or on a wooden platform extended out from a tower (See Pictorial 2). However, avoid placing the sensor on a metal surface, as this may interfere with the operation of the magnet. The top of the sensor should be close to the ground (where the wind speed is the lowest) and yet high enough to be above any expected snowfall accumulation. Be sure you choose a location that will not be affected by other structures or trees, which might prevent the full rain fall from reaching the sensor or cause an extra amount of rain to fall into it. The sensor must also be able to drain accumulated rain from its base.

Refer to Pictorial 3 for the following steps.

- ( ) Mount a suitable wooden platform or board at the selected location. The platform must be level for accurate measurements.

NOTE: Use the screws furnished with this kit to mount the sensor base to the platform. Be careful not to pinch the wires when you install the screws.

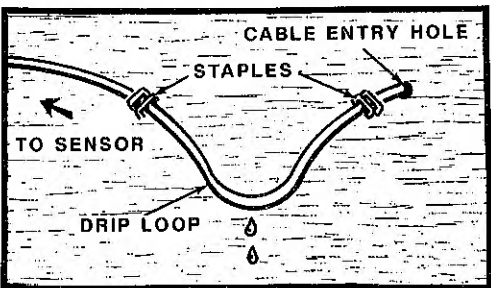


- ( ) Position the sensor base onto the platform. Then slide a mounting strap under the base, and start a screw through the holes in the base and strap into the platform.
- ( ) Similarly, start screws through the remaining two base holes and mounting straps. Then tighten all the screws enough to hold the base firmly in place.

WARNING: The collector ring is made of thin metal and can have very sharp edges. Handle the sensor carefully to avoid cuts. Wear leather gloves if they are available.

- ( ) Push the sensor top onto the base; then bend each mounting strap up and over the edge of the collector ring to hold the sensor in place.

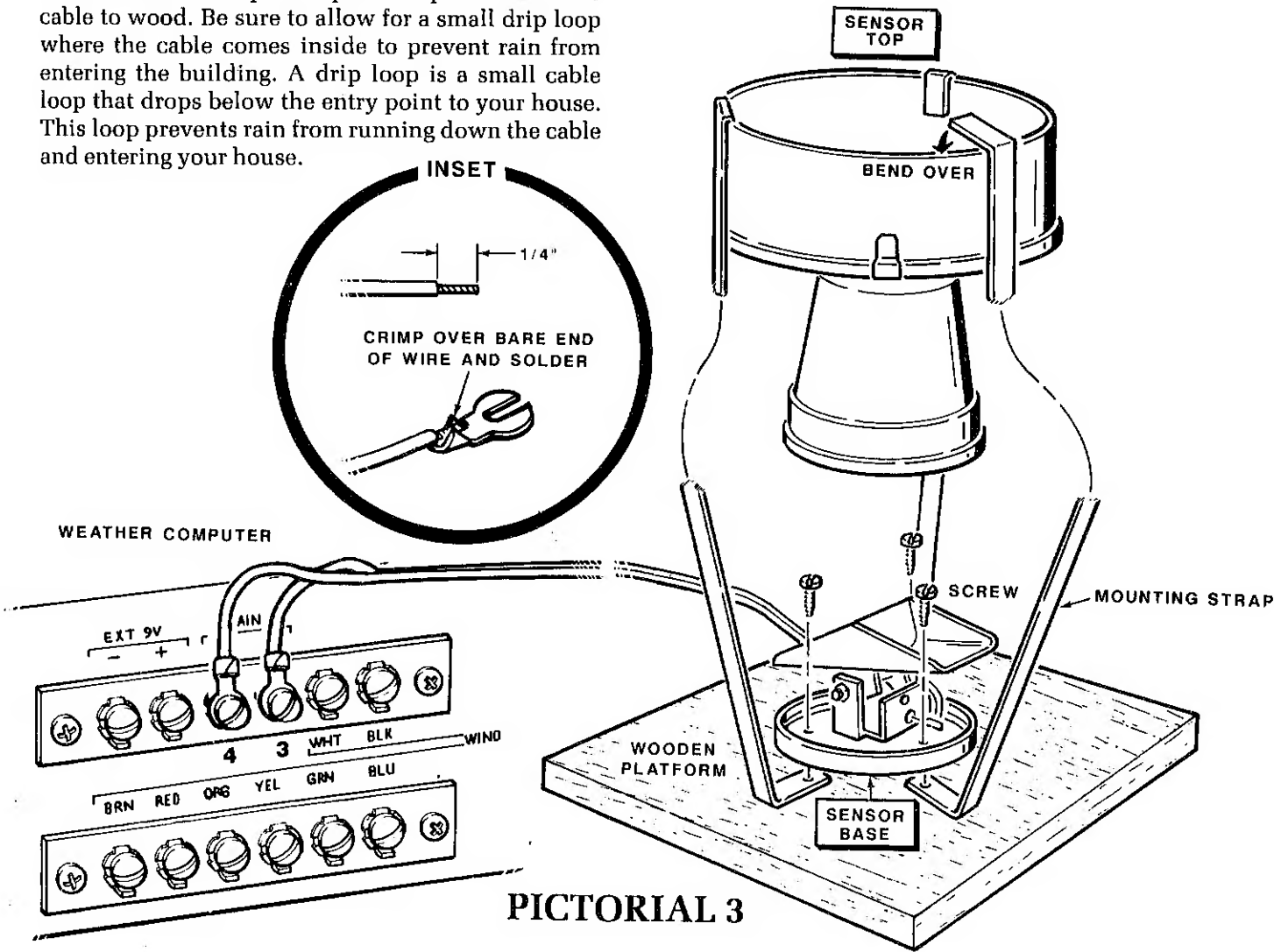
NOTE: Your particular installation will determine how to bring the cable into the building. You may be able to bring the cable inside in the same manner and location as your television set lead-in. You can use electrician's staples or plastic tape to secure the cable to wood. Be sure to allow for a small drip loop where the cable comes inside to prevent rain from entering the building. A drip loop is a small cable loop that drops below the entry point to your house. This loop prevents rain from running down the cable and entering your house.



- ( ) Refer to the inset drawing in Pictorial 3 and crimp and solder a spade lug onto each wire at the free end of the sensor cable.

Connect either sensor wire to the Weather Computer's terminal strip labeled RAIN as follows:

- ( ) Either wire to lug 3.
- ( ) Other wire to lug 4.



PICTORIAL 3

## OPERATION

When you press and hold the RAIN and RATE keys, the "rain" display will indicate the rain rate per hour. If you press the RATE key only, the display will indicate the amount of rain recorded during the last hour.

If all AC (line) or DC (battery) power to the Weather Computer is removed and then restored, the rain display will not light until the rain sensor detects a rainfall. To clear the digits in the rain display, just press and hold the RAIN and CLEAR keys.

You may clear the data, except the rain data, that is stored in the Weather Computer's memory by pressing and holding the CLEAR and ENTER keys. This allows the Computer to continue accumulating a total rain value (for the entire month). If you wish to obtain the rainfall for the last day, press the 24HR key.

**NOTE:** Refer to the ID-5001 Operation Manual for any further information about the Rain Gauge Accessory.